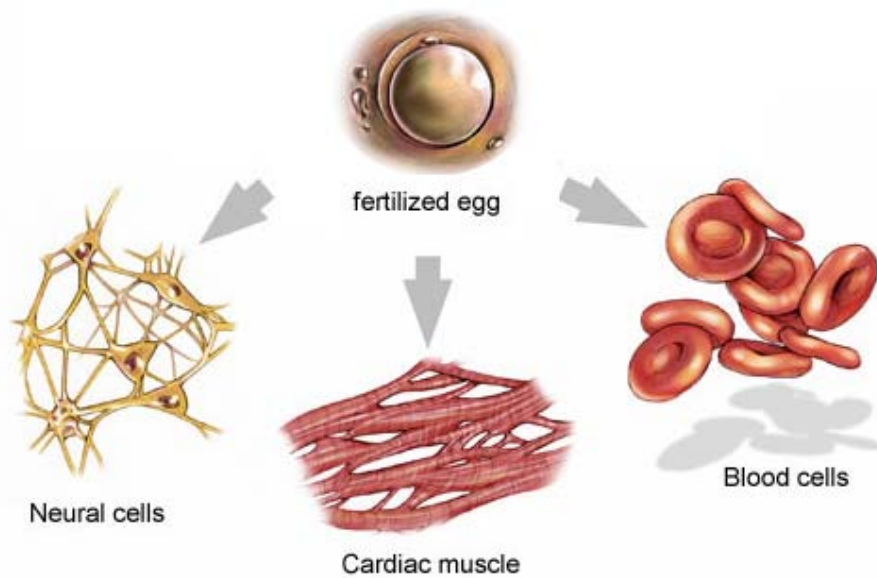


Processamento de RNA – “*splicing*”



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DNA → RNA → protein



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O Genoma humano:

- 3.2 Gb
- 1.1% a 1.4% codifica proteína
- 28% são transcritos
- aprox. 31 000 genes

O Gene humano típico:

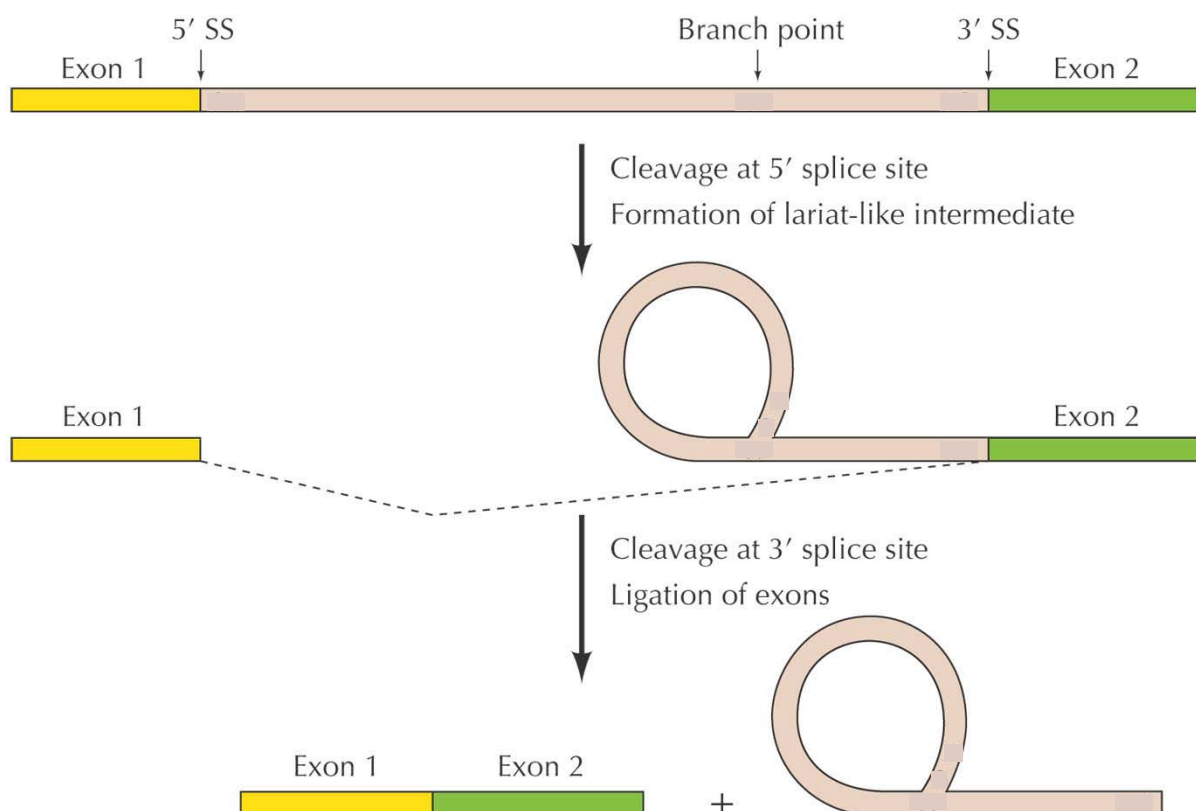


... e a sua mensagem: (10%)

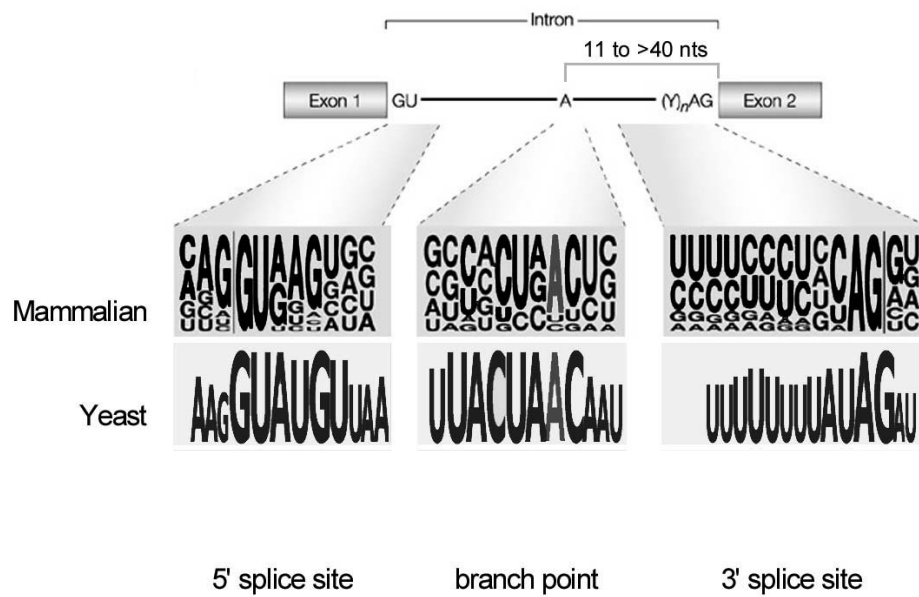
...ANAOM FUMARA E MLBOPREJUDICA ISMPAGRAVEFECHAMENTEDOASAÚDE...

FUMAR PREJUDICA GRAVEMENTE A SAÚDE

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Sequências de consenso



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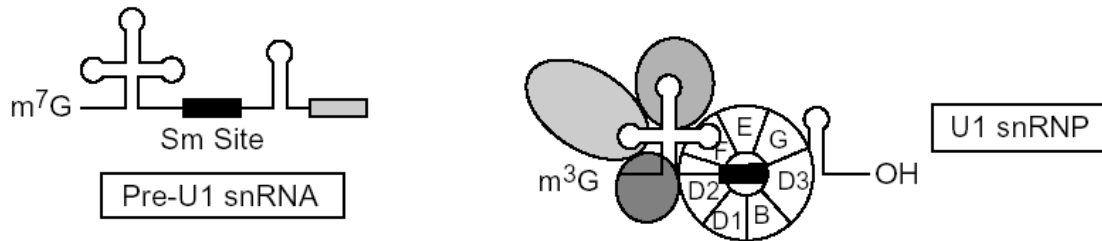
Pequenos RNAs nucleares: snRNAs



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Os 5 complexos snRNP (Small Nuclear RiboNucleoProtein)

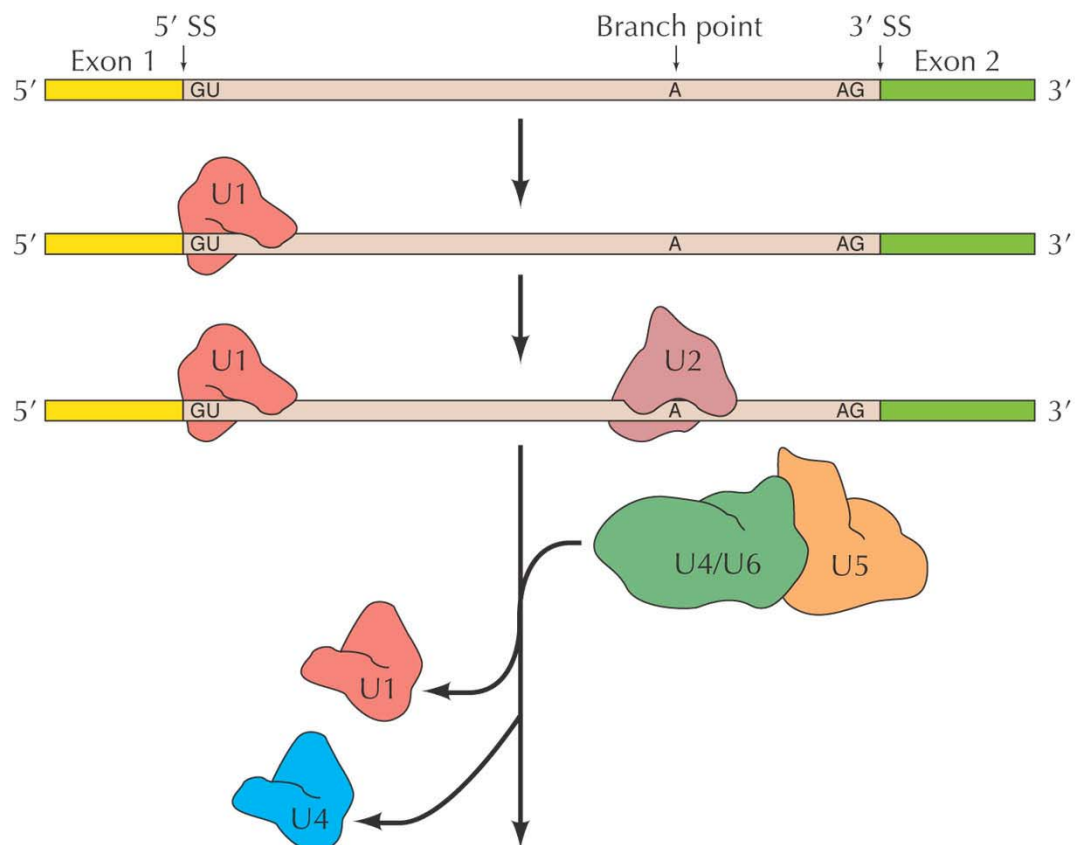
- snRNAs (U-rich): U1, U2, U4/U6, U5
- 14 proteínas Sm (core) + 5-10 proteínas específicas

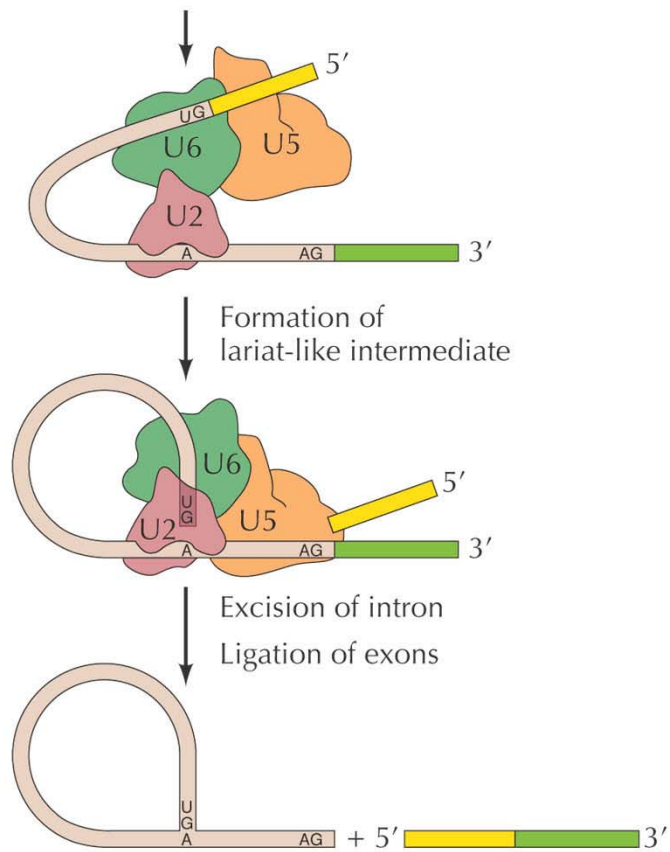


O spliceosoma: 100-300 polipéptidos + 5 snRNAs

(ribosoma: ~82 peptides)

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THE CELL, Third Edition, Figure 6.45 (Part 2) ASM Press and Sinauer Associates, Inc.
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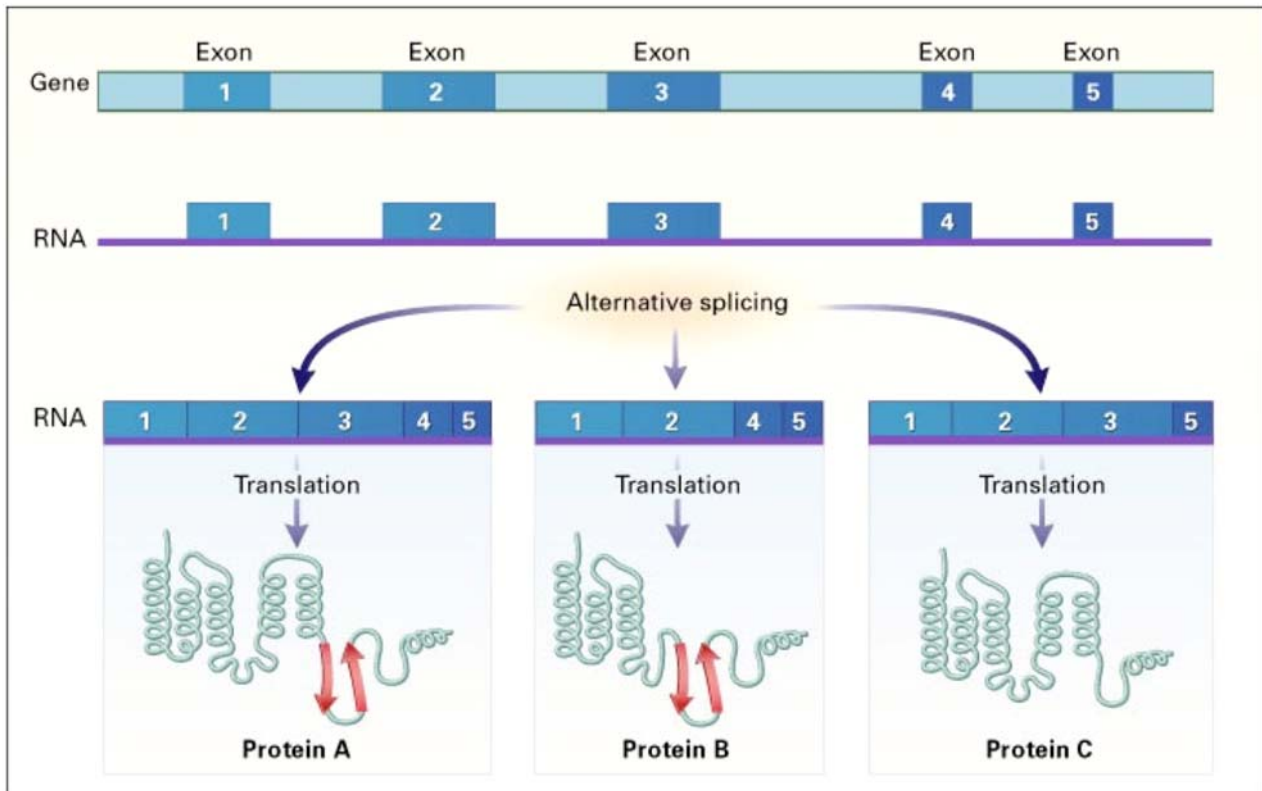
...ANAOMFUMARAEMLBOPREJUDICAISMPAGRAVEFECHAMENTEDOASAÚDE...

FUMAR	PREJUDICA	GRAVEMENTE	A SAÚDE
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NAO	FUMAR	EM	LOCAIS	FECHADOS
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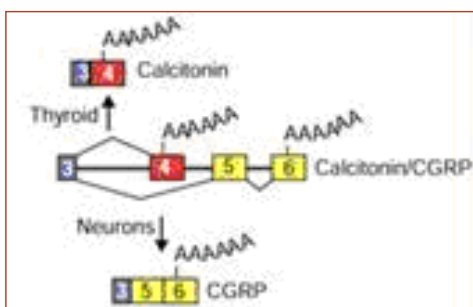
FUMAR	E	BOM	PARA	A MENTE
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Splicing alternativo



Hormonas

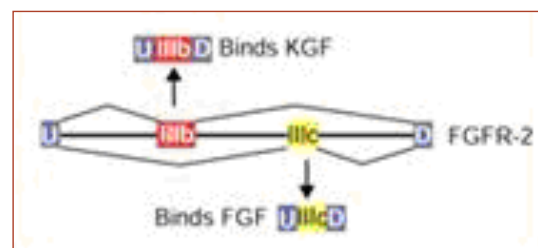
Calcitonina (regula cálcio no sangue)



Calcitonin gene related peptide (vasodilatador)

Cicatrização

Factor de crescimento dos queratinócitos – * formação do epitélio



Factor de crescimento dos fibroblastos – * preenchimento da ferida

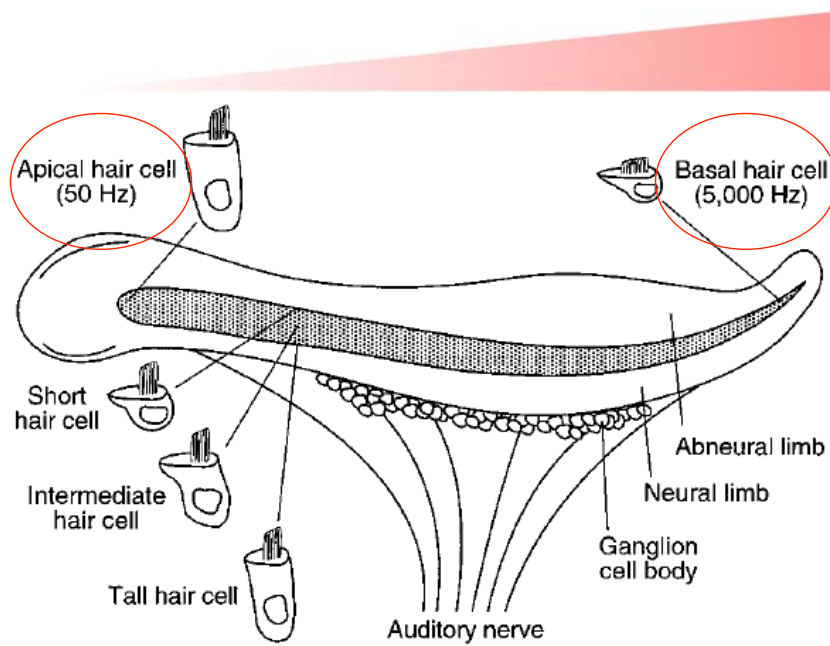
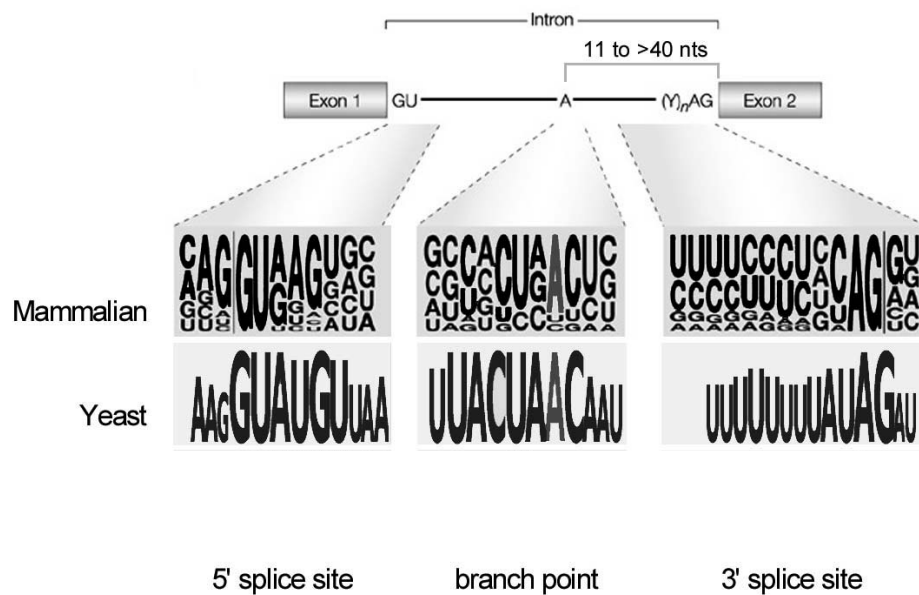


Figure 1. Tonotopic and Morphological Gradients of the Chicken's Cochlea

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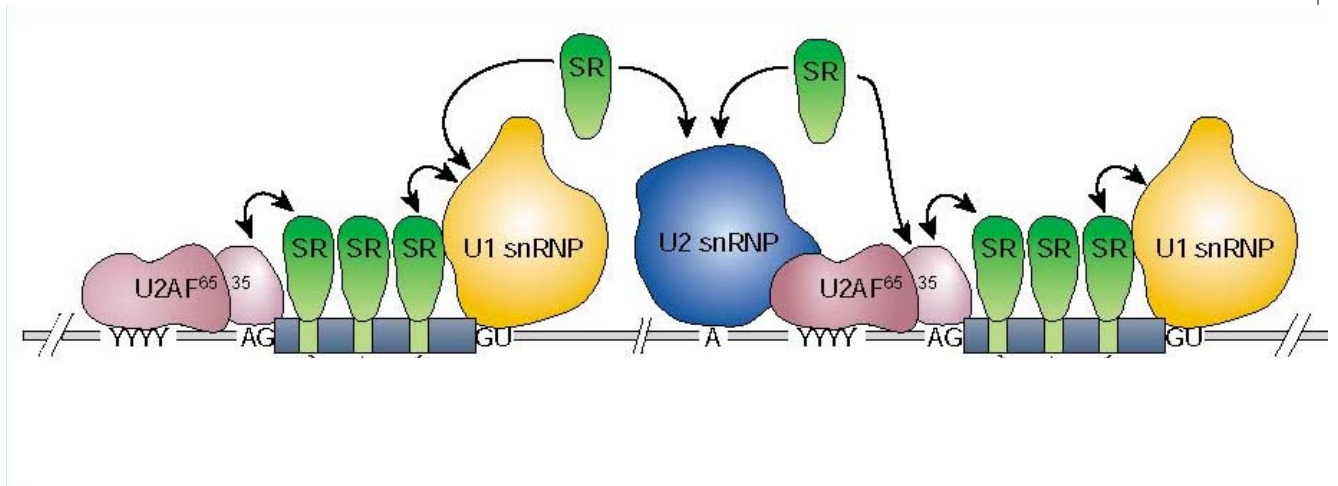
Rosenblatt et al., 1997

Sequências de consenso



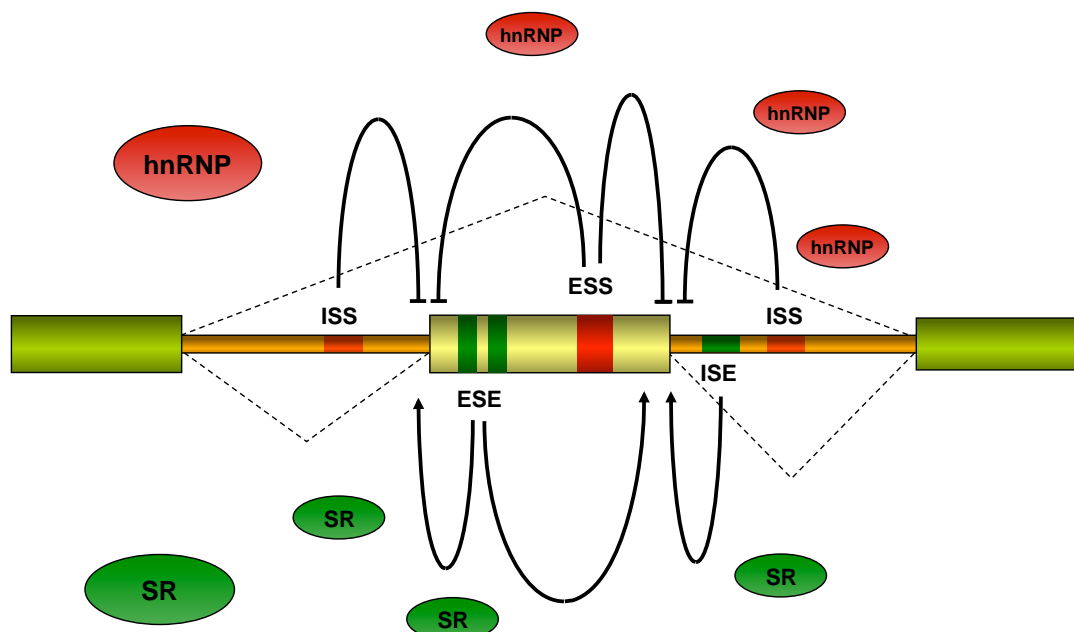
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Reconhecimento dos locais de splicing

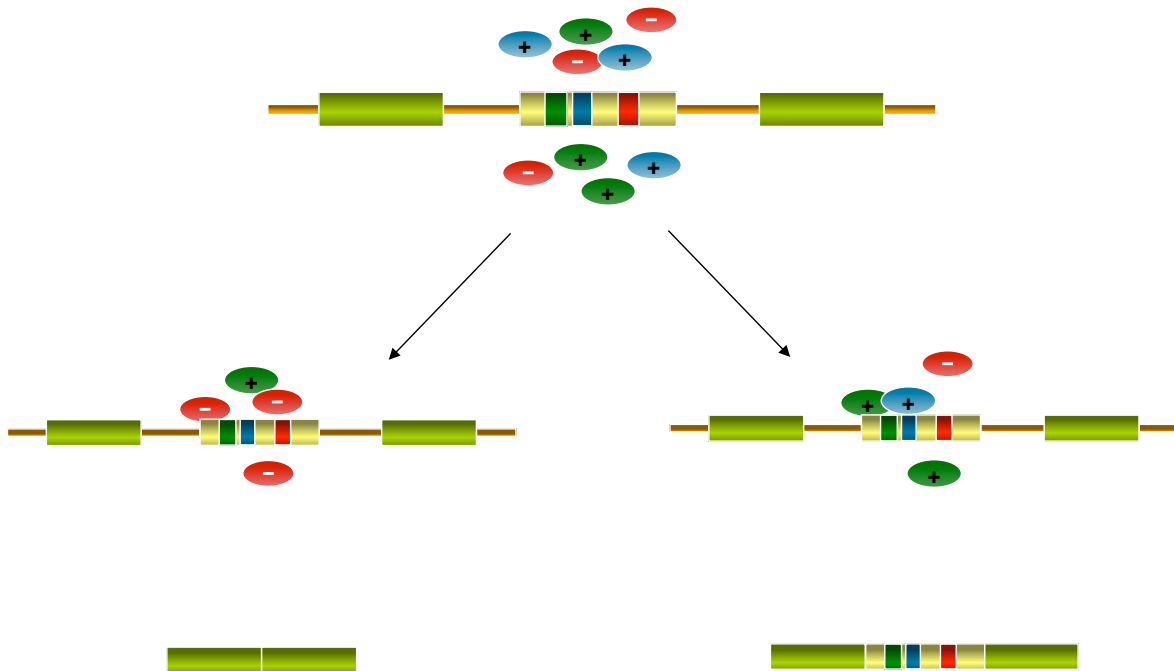


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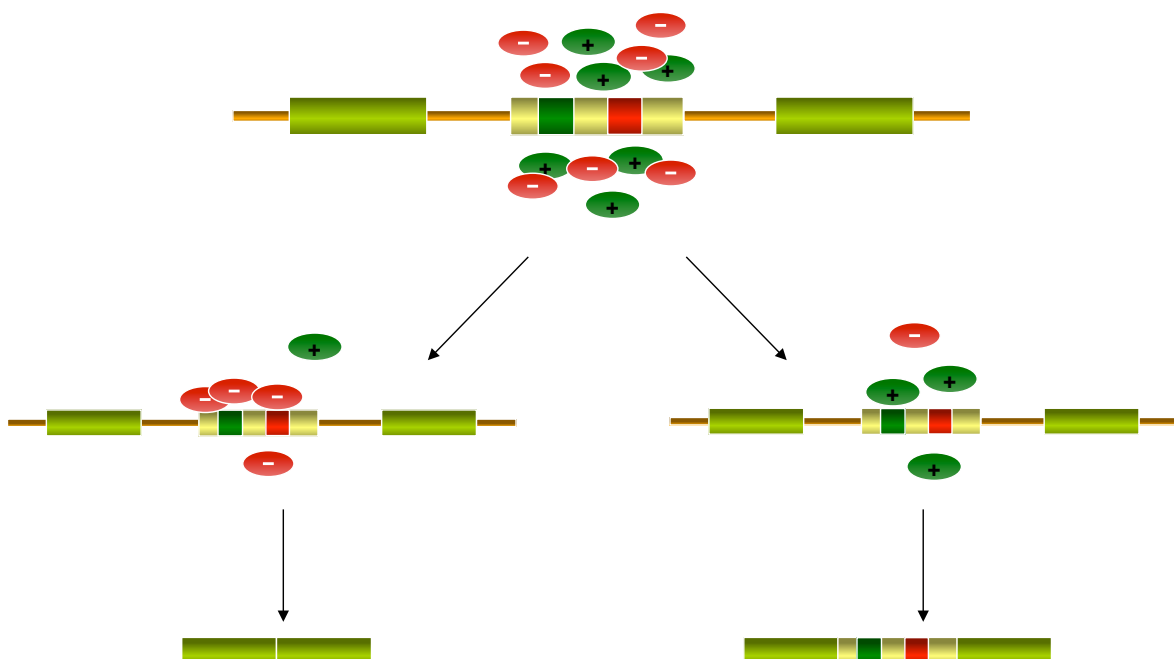
Regulação do splicing:

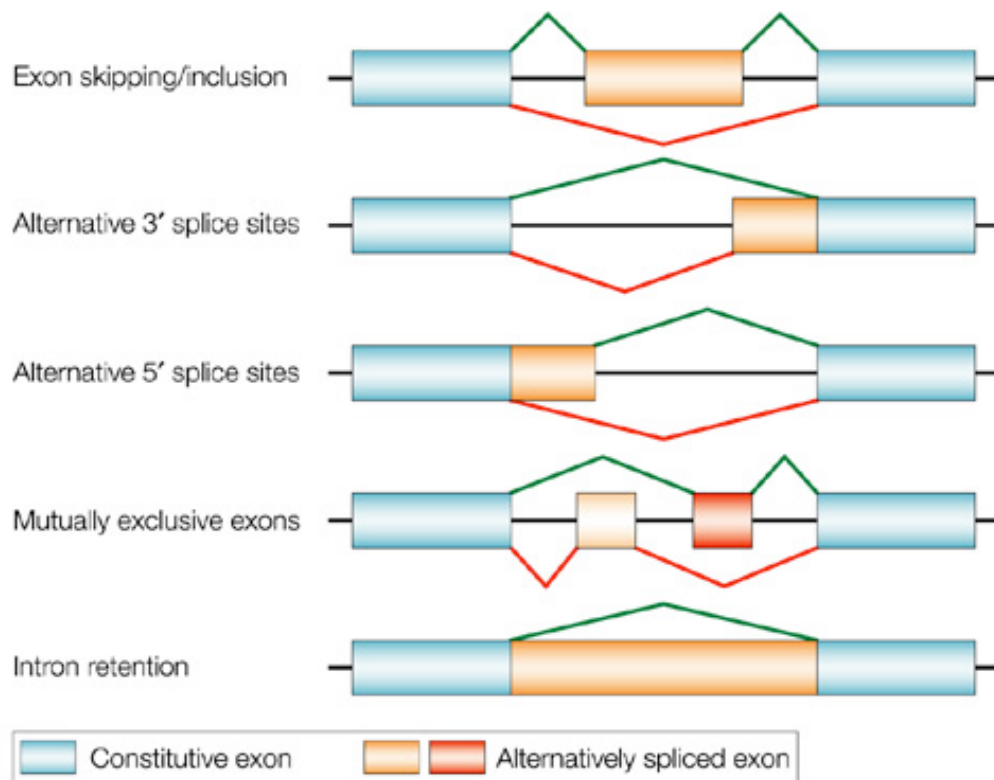


Expressão de um regulador de *splicing* específico

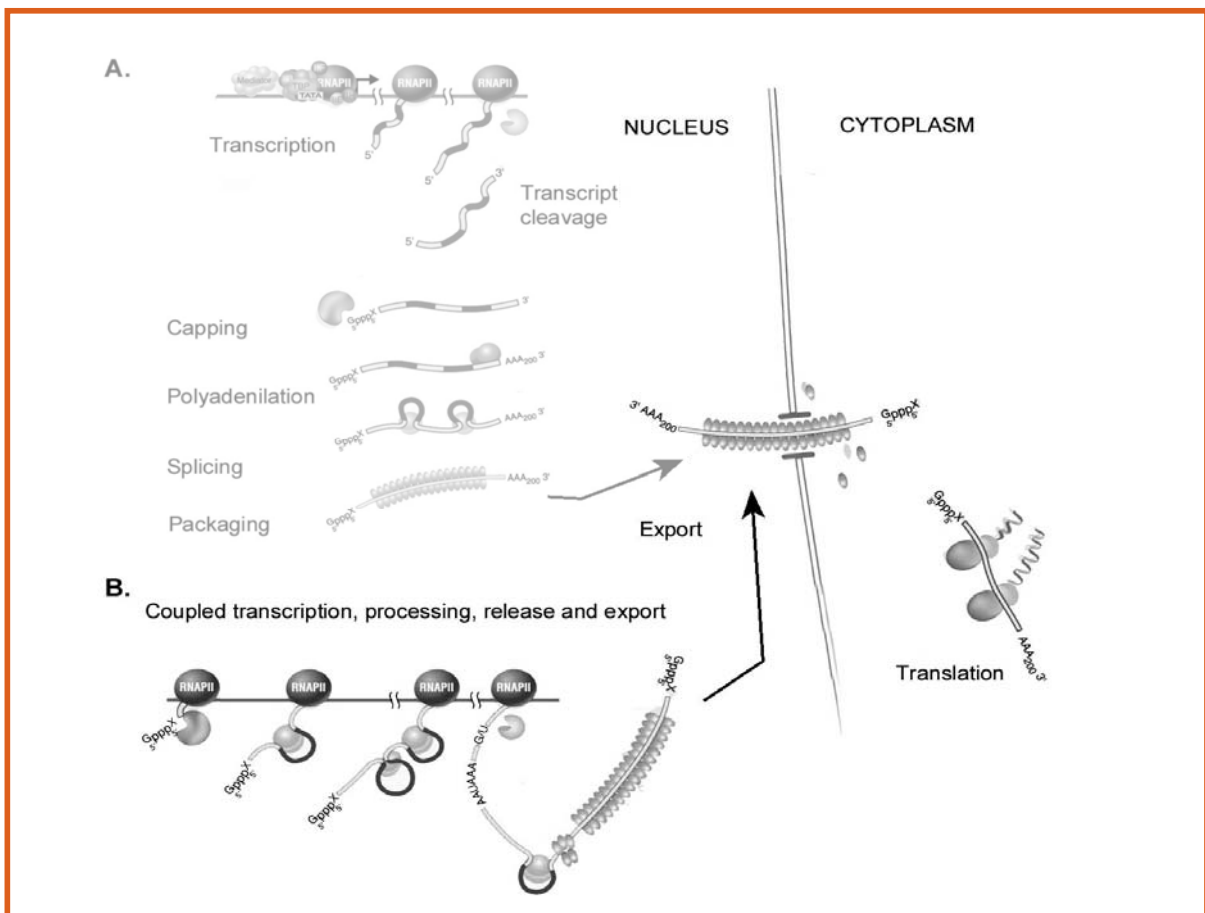
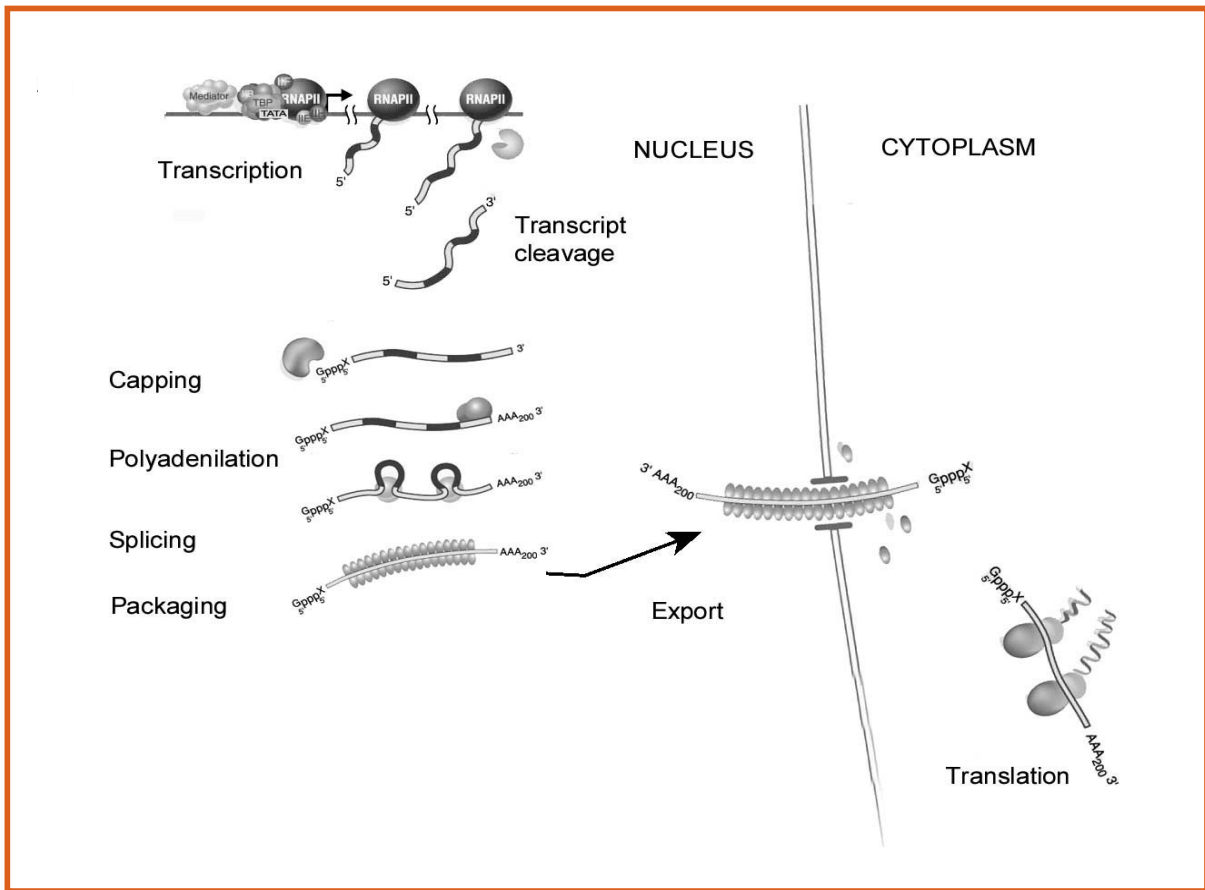


Variação da concentração relativa de factores de *splicing* ubíquos

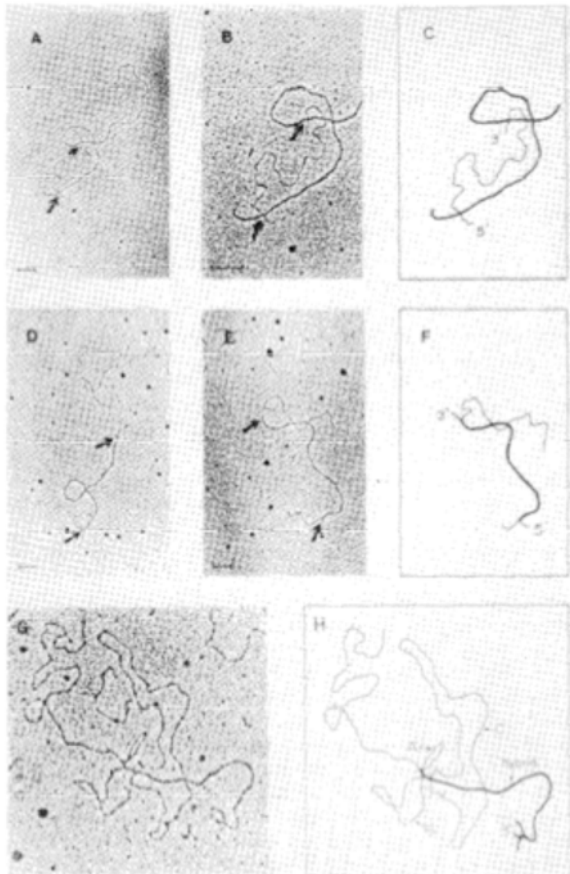




Quando é que o splicing acontece?



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Descoberta do splicing?